



TEST PREP AND  
ADMISSIONS

# PSAT<sup>®\*</sup>

## Sample Test Answers & Explanations

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## Section 1 (Critical Reading)

1. **B** On PSAT Sentence Completions, always try to predict the missing word. What effect might pollution caused by the production of electric cars have on the environmental benefits that the cars offer? (B), “outweigh,” fits the idea of balancing positive and negative effects of using electric cars. (C)’s “reinforce” is the opposite of the correct answer. (D), “eliminate,” is incorrect because pollution wouldn’t altogether eliminate the positive benefits of electric cars.
2. **D** The Keyword “but” indicates contrast. If you plug in the answer choices, (D) makes the most sense: the public became quickly excited about the issue, but agreement among experts as to the significance of the scrolls has been slower in coming. None of the other choices provides a clear contrast of ideas.
3. **E** The Keywords “though” and “surprisingly” signal that you’re looking for a word that is the opposite of “no discernable pattern,” so search for a word that means regular or patterned. “Periodic” means occurring at regular intervals, so it fits well here. Neither (A), “incidental,” meaning unimportant, nor (B), “endemic,” meaning prevalent in a certain place, fit here. (C), “spontaneous,” is the opposite of what you’re looking for, while (B), “unmediated,” meaning natural or not interfered with, doesn’t fit here.
4. **C** The Keyword “despite” signals that there is a contrast between how France and Germany relate to one another politically and how they relate to one another culturally. (C), “interaction” and “enmity,” (“the quality of being enemies”) best expresses this contrast. The other choices don’t reflect the contrast you need.
5. **C** The phrase “is probably not...” indicates a contrast between each half of the sentence, so you’re looking for a word that contrasts with “permanent.” The best choice is (C), “ephemeral,” which means “temporary, short-lived.” (A), “arbitrary,” means “subject to individual judgment,” and (E), “equivocal,” means “ambiguous.”
6. **D** The Keywords “not” and “but rather” indicate contrast. If a patriarchy is a cultural institution that is the result of political and social forces, it is not an inborn aspect of human nature. Only (C), “inherent,” and (D), “instinctive,” work in the first blank, so you can eliminate the other choices. Since it is theorized to be a cultural institution, patriarchy must be generated by political and social forces. (C), “discourage,” is the opposite of what you need, but (D), “promote,” fits.
7. **C** Using word charge is a helpful strategy here: the first blank requires a negative word to go with “bitter.” Only (A), “hateful,” and (C), “malicious,” are negative, so eliminate the other choices. It makes no sense to talk about “a betrayal of antipathy,” as in (A)—a “malicious” memoir would be a betrayal of something positive, like “intimacy.” Therefore, (C) is correct.
8. **B** The Keyword “whereas” introduces a contrast between two theories about ancient Greece: what historians believed “at one time” and what they believe “now.” Therefore, the two missing words have to be nearly opposite in meaning. This is the case with (B), “original” and “derivative.”

## Mammals or Reptiles

9. **D** For Function questions like this one, put yourself in the author’s shoes—why would she write such a sentence? The author starts with this question to let you know the topic of the passage, as answer choice (A) indicates. She could have done it the conventional way; something like: “Scientists couldn’t decide whether platypuses and echidnas were mammals or reptiles.” Instead, she chose a more dramatic beginning—asking the same question that the scientists she discusses were asking.
10. **D** When you back up a couple of lines from the discussion of eyes and ears, you see the phrase “For example.” So what are the eyes and ears examples of? “These animals have some traits in common with reptiles and some traits in common with mammals.” That fits (D) pretty well. Watch out for choice (B). It looks reasonable (it’s about the differences between the two types of animals), but it doesn’t quite work, since the author doesn’t make such a definitive comparison.

## Rowan and Miss Ashley

11. **D** This is an old-fashioned expression that describes dating, (D). If you weren’t sure of the meaning, the context following the phrase can help you eliminate clearly incorrect answers. For example, the author doesn’t mention how Rowan and Miss Ashley spent all their time, (A). Be wary of extreme language in answer choices, like “all.” This is a trap for those test takers who read “stepping out” too literally. Also, although you know they’ve been dating for a year, you don’t know whether the author thinks that’s too long, (E).
12. **A** Prior to this sentence, you read about how quiet Miss Ashley was, and how Rowan did most of the talking. You can infer that he likes quiet women who let him talk; (A) is correct. (D) might be tempting, since Rowan did discuss business, but this is not consistent with the rest of the passage. (Rowan doesn’t seem to have such progressive views.) (E) might also seem tempting at first, since Rowan spun dreams about the future, but the author doesn’t tell you if Miss Ashley shared these dreams.

## Psychosomatic Healing

13. **B** The first author uses a single account and is undecided, though mildly positive. The second author, by contrast, describes a general set of experiences and is unquestionably positive. (B) accounts for both of these. Eliminate (A), because this is only the opinion of the author of Passage 2. (C) is incorrect because Passage 1 does not reject the theory, and Passage 2 endorses the theory fully, not just *mildly*. Eliminate (D) because Passage 2 is critical only of drug therapy, and certainly provides a conclusive opinion. Since Passage 2 is based primarily on personal experience, not outside empirical evidence, you know (E) is incorrect.
14. **B** Vocab-in-Context questions use words that have multiple definitions; the way the word is used in context gives it a specific meaning. Find a word with the same meaning as the selected word, as governed by the passage, and match it to the

answer choices. The doctor is asking if the author ever read symptoms and “directly” felt sick. “Directly” usually means “in a straight line,” but it can also mean “right away,” which matches (B).

15. **B** When predicting a word to describe a person in the text, remember that the correct answer will stay true to the author’s overall tone. The author’s wife was “exasperated” and pointed out a different solution, so she was doubtful of the doctor’s explanation. Look for an answer choice that means “a doubtful person,” which is (B).
16. **D** The selection describes a change in behavior that would likely lead the author to feel healthier, while the doctor stated that the mental state derived from the sugar pills was the cause. Look for an answer choice that would isolate the state of mind as the only thing that was responsible for the author’s improved health, as in (D). (A) is the opposite of what you’re looking for; the end of the second paragraph describes the doctor as seeming “extremely reputable,” and the doctor’s credentials are never questioned. (B) would make the doctor’s conclusion less logical. In (C), the change in behavior could still be a possible cause. (E) would make the psychosomatic explanation less convincing, not more.
17. **D** The third paragraph does suggest more doubt in the mind of the author, but his attitude can still be characterized as “mildly positive,” since the conclusion of the final paragraph speculates about the power of psychosomatic phenomena. (D) matches this. Eliminate (A) because the author is certainly more positive than negative. (B) doesn’t work because the author maintains a strong opinion throughout the passage. (C) is incorrect because the author is genuinely interested. (E) might describe the author’s wife, albeit in extreme fashion.
18. **A** The author is advised to rest and postpone the trip, but does neither. She instead runs errands and leaves as planned, and gets better well before she was expected to, implying the power of psychosomatic healing, as in (A). Eliminate (B) because the author never states her opinion of travel. (C) is incorrect because running the errands has nothing to do with forgetting the antibiotics. In (D), the rush of adrenalin would relate to the actual trip rather than preparing for it. (E) doesn’t work because, while the author was miserable while running errands, she actually healed more quickly than expected.
19. **D** The phrases are referring to prescription drugs, and the author described relying on psychosomatic healing and loathing to take prescription drugs, so you can predict that these phrases are relating to what the author feels are the shortcomings of prescription drugs, as in (D). (A) is the opposite of what you’re looking for; the phrases refer to downsides not found with psychosomatic healing. The passage never refers to dosage level, as (B) suggests. (C) is also the opposite of what you’re looking for; the author states that she now relies on psychosomatic healing. There is no evidence given regarding permanent bodily damage, which eliminates (E).
20. **B** Questions that ask about strengthening/weakening an argument depend on your understanding of that argument’s specific terms. What assumptions are essential to the author’s position? The correct answer choice will provide evidence against the author having a strong immune system, as in (B). (A) points to the author having a strong immune system. An incorrect diagnosis, as in (C), would not be specific

enough to provide evidence, one way or the other. (D) is incorrect because author was feeling better before taking the trip. (E) would make it more likely that her immune system was responsible.

21. **C** The author contracted strep throat, was given a recommendation by a doctor that would not work with her schedule, and was successful in applying psychosomatic healing, even given her scheduling constraints. While the question is too broad to predict, the answer choice will carry the same logic as the incident, (C). (A) the opposite of what you're looking for, since the author decided not to use traditional medicine. Eliminate (B) because traditional medicine did not fail, it simply did not fit into the author's schedule, so it wasn't used. (D) is a possible argument against the power of psychosomatic healing, but is not supported by the specifics of Passage 2. (E) is also opposite what you're looking for; psychosomatic healing was administered entirely differently in this circumstance.
22. **D** When finding common ground on paired passages, consult your notes. The correct answer will not contradict either author's main idea. The first author is mildly positive, and the second author is very positive. The first author sees possibilities in psychosomatic healing, and the second author sees it as a realistic substitution for traditional medicine. The first author is confused by it, and the second author does not have a complete explanation for it. The correct answer will draw from these opinions and not contradict any of them, as in (D). (A) only applies to Passage 2. (B) sounds like it can be attributed to the wife in Passage 1 and the "certain people" alluded to in Passage 2. (C) only applies to the author of Passage 2. Eliminate (E) because neither author responds to general criticism.
23. **A** When finding major differences between paired passages, look to your notes. The correct answer will usually come from major ideas, not minute details. The first author seems amused and interested, while the second author sees psychosomatic healing as something solid and readily applicable. Both are positive, so the correct answer must come from the degree of belief or practice. (A) works; Author 1 is exposed to the idea, while Author 2 actively applies it. (B) is the opposite of what you're looking for, since the author of Passage 2 is clearly not new to the concept. Eliminate (C) because the author of Passage 2 is not "cautious," and the author of Passage 1 is not "enthusiastic." (D) is incorrect because the author of Passage 2 does not entirely understand the causes, but gives a large explanation at the end of the last paragraph, and the author of Passage 1 found one possibility for his recovery, but not for the phenomenon itself. Eliminate (E) because both authors discuss personal experience, not application outside themselves.
24. **D** Remember to keep straight who said what! Both passages contain people that make both positive and negative assessments of psychosomatic healing. The correct answer will contain two figures that have the same point of view (positive or negative) to the same degree, as in (D). Eliminate (A) because Passage 1's doctor believes fully in psychosomatic healing, while Passage 2's does not address it. (B) is the opposite of what you're looking for; the wife is doubtful, while the author of Passage 2 fully believes it. (C) doesn't work because the author of Passage 1 is mildly positive, while the "certain people" are doubtful. (E) is the opposite of what you're looking for; the doctor in Passage 1 believes in psychosomatic healing, while the "certain people" are doubtful.

## Section 2 (Math)

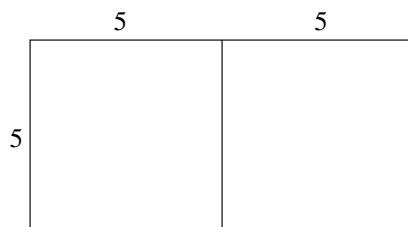
- D** The hundredths digit is the second digit to the right of the decimal point, which in this case is 8.
- B** Check each choice, one at a time. (A) equals  $9x^2$ . (B), however, doesn't:  $4x + 5x = 9x$ . To add like variables, you sum the coefficients and leave the variable as it is. Choices (C), (D), and (E) all equal  $9x^2$ .
- B** You must always do the same thing to both sides of an equation:

$$\frac{1}{3}(2x) = \frac{1}{3}(10)$$

$$2x = 10$$

$$x = 5$$

- B**  $33\frac{1}{3}\%$  is a percentage whose fractional equivalent should be familiar to you.  $33\frac{1}{3}\% = \frac{1}{3}$ , so look for the region on the pie chart that is approximately  $\frac{1}{3}$  of the circle.
- C** The area of a square is equal to the length of its side squared. Each of the two squares has an area of 25, so each square has a side length of  $\sqrt{25} = 5$ . From the sketch below you can see that the original rectangle has a width of 5 and a length of  $5 + 5 = 10$ .



The rectangle's perimeter is equal to  $2(l + w)$ , where  $l$  = length and  $w$  = width. The perimeter of the original rectangle is  $2(10 + 5) = 2(15) = 30$ .

- B** This question talks about rates and times, so you'll need to use the formula  $\text{rate} \times \text{time} = \text{distance}$ . John traveled at 48 miles per hour for 2 hours and 15 minutes, or 2.25 hours. He traveled  $48 \times 2.25 = 108$  miles. The question asks about the rate at which he'd have to drive to make this same trip in 2 hours, which is  $\frac{108 \text{ miles}}{2 \text{ hours}} = 54$  miles per hour.
- A** This question can be solved very quickly if you recognize that  $(x + 1)(x - 1)$  is a difference of squares. In general,  $(a + b)(a - b) = a^2 - b^2$ . Here,  $(x + 1)(x - 1) = x^2 - 1$ . You're given that  $x^2 = 7$ , so  $x^2 - 1 = 7 - 1 = 6$ . This problem can also be solved with your calculator. Take the square root of both sides to come up with the value of  $\sqrt{7}$  for  $x$ . Plug  $\sqrt{7}$  into the equation to solve:  $(\sqrt{7} + 1)(\sqrt{7} - 1) = 6$

8. **D** This question is a little tricky, since it calls on you to deal with percents in the abstract. To make the question more concrete, Pick Numbers. In a percent problem, the best number to pick is 100. But because there are 2 variables,  $x$  and  $y$ , you might be confused as to which of them you should make 100. Since  $x$  is given as  $66\frac{2}{3}$  percent of  $y$ , if you let  $y = 100$ , then  $x$  is simply  $66\frac{2}{3}$ . Now you need to determine what percent of  $y$   $x$  is.  $\text{Percent} = \frac{\text{part}}{\text{whole}} \times 100\%$ . Since you're looking for a percent of  $x$ ,  $x$  is the whole and  $y$  is the part. Plugging in gives you  $\text{percent} = \frac{100}{66\frac{2}{3}} \times 100\%$  or  $\frac{100}{\frac{200}{3}} \times 100\%$ . Since dividing by a fraction is the same as multiplying by its reciprocal,  $100 \times \frac{3}{200} \times 100\% = \frac{300}{2}\% = 150\%$ , (D). Even if you couldn't entirely solve this question, you could have used common sense to eliminate a few choices. Since  $x$  is only  $66\frac{2}{3}\%$  of  $y$ ,  $y$  is greater than  $x$ . Therefore,  $y$  must be more than 100% of  $x$ , and (A) and (B) could both be eliminated as too small.

9. **A** Look at the prime factorizations of 4, 6, and 10:

$$\begin{aligned} 4 &= 2 \times 2 \\ 6 &= 2 \times 3 \\ 10 &= 2 \times 5 \end{aligned}$$

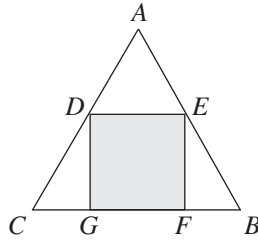
A multiple of all three of these numbers will have to contain each of these prime factors raised to the highest exponent with which it is used. In other words, it must contain two factors of 2, one factor of 3, and one factor of 5. Now look at the answer choices, and find the prime factorization of each:

(A)  $8 = 2 \times 2 \times 2$  or  $2^3$ . Since you determined that the number you were looking for only had to have 2 factors of 2, it doesn't have to be divisible by 8.

Even if you could not solve this question systematically, you could have tried coming up with a number which is a multiple of 4, 6, and 10 and which is not a multiple of the correct answer choice. With a little experimenting you would find that 60 is a multiple of 4, 6, and 10 but not a multiple of 8.

10. **E** The least common denominator of all the fractions is 64. Expanding each fraction to have a denominator of 64 gives you  $\frac{32}{64} + \frac{16}{64} + \frac{8}{64} + \frac{4}{64} + \frac{2}{64} + \frac{1}{64}$ , which sums to  $\frac{63}{64}$ . 63 and 64 have no common factor other than 1, so this fraction cannot be reduced. Therefore, the numerator of the sum is 63.

11. E



The vertices of the square are labeled  $D$ ,  $E$ ,  $F$ , and  $G$  in the figure above. The perimeter of  $\triangle ABC$  is equal to the sum of  $AE$ ,  $EB$ ,  $BF$ ,  $FG$ ,  $GC$ ,  $CD$ , and  $DA$ . Square  $DEFG$  has an area of 3. The area of a square is equal to its side length squared, so  $FG^2 = 3$ , and  $FG = \sqrt{3}$ . Since  $\triangle ABC$  is equilateral, all three of its angles are  $60^\circ$  degrees. Since  $\overline{DE}$  is parallel to  $\overline{BC}$ ,  $\triangle AED$  is also an equilateral triangle. In square  $DEFG$ ,  $DE = FG$ , so  $DE = \sqrt{3}$ . In equilateral triangle  $AED$ ,  $AE = DA = DE$ , so  $AE$  and  $DA$  both equal  $\sqrt{3}$ . Now look at right triangle  $EFB$ .  $\angle EFB$  has a measure of  $90^\circ$  because this angle is supplementary to  $\angle EFG$  of the square. You know that angle  $EBF$  has a measure of  $60^\circ$  because it is an angle of equilateral triangle  $ABC$ . So the third angle of triangle  $EBF$ ,  $\angle FEB$ , must be  $180^\circ - 90^\circ - 60^\circ = 30^\circ$ . So right triangle  $EFB$  is a  $30$ - $60$ - $90$  triangle whose sides are in the ratio  $x : x\sqrt{3} : 2x$ . In  $\triangle EFB$ , the longer leg,  $\overline{EF}$ , is also a side of the square, so it has a length of  $\sqrt{3}$ . The length of the shorter leg,  $\overline{BF}$ , is 1 and the hypotenuse,  $\overline{EB}$ , is 2. Now  $AB = AE + EB = 2 + \sqrt{3}$ . Since all three sides of equilateral triangle  $ABC$  are equal, the perimeter of triangle  $ABC$  is  $AB + BC + CA = 3AB = 3(2 + \sqrt{3}) = 6 + 3\sqrt{3}$ .

12. B To simplify a radical, factor out any perfect squares in it.

$\sqrt{48} = \sqrt{16 \times 3} = \sqrt{16} \times \sqrt{3} = 4\sqrt{3}$ . Similarly,  $\sqrt{12} = \sqrt{4 \times 3} = \sqrt{4} \times \sqrt{3} = 2\sqrt{3}$ . So you have  $4\sqrt{3} + 2\sqrt{3} + \sqrt{3} = 7\sqrt{3}$ .

13. A To work with the symbol, just plug the given values into the expression  $x^2 + \frac{y}{2}$ .

$$3^2 + \frac{4}{2} = 5^2 + \frac{n}{2}$$

$$9 + 2 = 25 + \frac{n}{2}$$

$$11 = 25 + \frac{n}{2}$$

You're asked to solve for  $n$ , so isolate it on one side of the equation by subtracting 25 from both sides:

$$14 = \frac{n}{2}. \text{ Multiply both sides by 2: } -28 = n.$$

14. C You're given that the average of three different numbers is 4, and you're asked to find the greatest possible value for one of those integers. Since you know the actual average, and the number of terms, you can solve for the sum of the three numbers by plugging the values into the average formula:

$$(\text{average})(\text{number of terms}) = (\text{sum of terms})$$

$$4 \times 3 = 12$$

To find the greatest possible value for one of the terms, you need to take the smallest possible values for the other two terms. The question states that all three terms are positive integers, so the smallest possibility for one of these terms is 1. It can't be 0,

since 0 is neither positive or negative. Now you need to find the smallest possible value for the second term. All 3 terms must be different, so this term can't also be 1. The smallest it can be is 2. This would make the third term  $12 - 1 - 2 = 9$ .

15. **E** You're given the length of the hypotenuse and the length of one leg of a right triangle, and are asked to solve for the the length of the other leg, so you should immediately think of the Pythagorean Theorem. The theorem states that in a right triangle, the square of the hypotenuse is equal to the sum of the squares of the legs. Here, the hypotenuse is  $x + 3$  and one of the legs is  $x + 2$ . Let the length of the leg you're looking for be called  $n$ . Plugging into the theorem gives you:

$$\begin{aligned} n^2 + (x + 2)^2 &= (x + 3)^2 \\ n^2 &= (x + 3)^2 - (x + 2)^2 \\ n^2 &= (x^2 + 6x + 9) - (x^2 + 4x + 4) \\ n^2 &= 2x + 5 \\ n &= \sqrt{2x + 5} \end{aligned}$$

16. **E** The best way to solve a remainders problem is to pick a number for the variable. Since  $n$  leaves a remainder of 7 when divided by 9,  $n$  is 7 more than a multiple of 9, so let  $n$  equal  $9 + 7$  or 16. When  $n = 16$ ,  $5n = 80$ . 80 divided by 9 is 8 with a remainder of 8.
17. **B** The best way to solve this question is to try out the answer choices to see if one works. There is no way to move 1 marble from Box A to Box B so that the ratio of black marbles to white marbles will be the same in both boxes. However, if you move 2 black marbles from Box A to Box B, then Box A will contain 2 black marbles and 1 white marble and Box B will contain 6 black marbles and 3 white marbles. Therefore the ratio of black marbles to white marbles in both boxes will be 2 to 1.
18. **A** You're given the equation  $V = \frac{4}{3}\pi r^3$  and are asked what the value of  $V$  is multiplied by if  $r$  is multiplied by  $\frac{1}{2}$ . Try it and see what happens. Multiplying  $r$  by  $\frac{1}{2}$  gives you  $\frac{r}{2}$ . Plug this into the given equation:

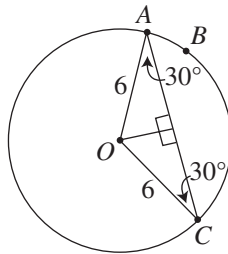
$$\begin{aligned} V &= \frac{4}{3}\pi\left(\frac{r}{2}\right)^3 \\ &= \frac{4}{3}\pi\left(\frac{r^3}{2^3}\right) \\ &= \frac{4}{3}\pi\left(\frac{r^3}{8}\right) \\ &= \left(\frac{1}{8}\right)\left(\frac{4}{3}\pi r^3\right) \end{aligned}$$

Since the original value of  $V$  is  $\frac{4}{3}\pi r^3$ , you can see that multiplying  $r$  by  $\frac{1}{2}$  causes  $V$  to be multiplied by  $\frac{1}{8}$ .

19. **E** You're asked to find the length of a chord of a circle, which also happens to be the side of a triangle drawn within that circle. See what you can figure out from the given information. The circle has area  $36\pi$ , and since the area of a circle is equal to  $\pi$  times its radius squared, the radius of the circle is 6. This means that radii  $OA = OC = 6$ , and  $\triangle OAC$  is isosceles. At this point you can eliminate a couple of answer

choices. Remember, diagrams on the SAT are drawn to scale unless otherwise noted, so you can see that  $AC$  is greater than either  $OA$  or  $OC$ , and is therefore greater than 6. Eliminate (A) and (D) for being too small. You also know that the longest chord of a circle is a diameter, one that passes through its center. Since chord  $AC$  doesn't pass through center  $O$  it must be less than the circle's diameter, which is 12 ( $d = 2r$ ). Therefore you can eliminate (C) as being too large. You've barely started to solve, and you've already worked your way down to 2 choices, (B) and (E). If you were pressed for time or stumped as to how to proceed, you'd have great guessing odds.

What else can you figure out from the given information? You're told that arc  $ABC$  has length  $4\pi$ . The circumference of the circle is  $2\pi r$ , or  $12\pi$ , so this arc is  $\frac{4\pi}{12\pi} = \frac{1}{3}$  of the entire circumference. That means that the central angle of the arc,  $\angle AOC$ , represents  $\frac{1}{3}$  of the circle's total angle measure, or  $\frac{360^\circ}{3} = 120^\circ$ . Since  $\triangle OAC$  is isosceles with  $OA = OC$ ,  $\angle OAC = \angle OCA$ . Therefore each of these angles is equal to  $\frac{180^\circ - 120^\circ}{2} = \frac{60^\circ}{2} = 30^\circ$ . If you draw a perpendicular line from  $O$  to  $AC$ , you divide  $\triangle OAC$  into two right triangles.



Since each contains a  $30^\circ$  angle as shown, the third angle in each triangle must be  $60^\circ$ . So each is a  $30\text{--}60\text{--}90$  triangle, with sides in the ratio of  $x : x\sqrt{3} : 2x$ . Since the hypotenuse of each right triangle is 6, the side opposite the  $60^\circ$  angle is  $3\sqrt{3}$ . That means  $AC$  is  $3\sqrt{3} + 3\sqrt{3} = 6\sqrt{3}$ .

20. **D** This is a good question to solve by Picking Numbers, and since it's a percent problem it's usually best to pick 100. Let the average population of the 9 other districts be 100. The population of District A is 3 times that, or  $3 \times 100 = 300$ . The question asks what percent of the city's population lives in District A.

$$\text{Percent} = \frac{\text{part}}{\text{whole}} \times 100\%$$

The part is the population of District A and the whole is the population of the entire city, which is the sum of the population of District A and the 9 other districts.

Plugging this in gives you:

$$\frac{300}{300 + 9(100)} \times 100\%, \text{ or } \frac{300}{1200} \times 100\%.$$

This reduces to  $\frac{1}{4} \times 100\%$  or 25%.

## Section 3 (Critical Reading)

1. **A** The structure of this sentence sets up a contrast; while the biography mostly covers familiar events, several chapters “may well be -----, even to experts.” So you’re looking for a word that means “unfamiliar”—making (A), “surprising,” the best choice. Notice that the Keyword “even” reinforces the contrast—*even* the experts are not going to be familiar with parts of the musician’s early life.
2. **B** The phrase “worthwhile ideal” reveals that the chairman values these ideals. This gives you two options: either he liked the decision because it was a continuation of the ideals, or he disliked the decision because it was not a continuation of the ideals. Only (B) fits the logic of the sentence.
3. **A** The Keyword “While” signals a contrast, so the missing word has to sound opposite to “stayed within a classical context” and be consistent with “challenged convention.” The choice that fits best is (A), “novel,” which means “new and different.” Notice that (B), “familiar,” is Opposite.
4. **C** The Keyword “despite” indicates that the brothers must have different temperaments—making (C), “dissimilar,” and (D), “different,” strong possibilities. The second word has to contrast with “quiet and circumspect,” and be similar in tone to “brash”; “audacious,” or bold, is the only choice that makes sense, so (C) is correct.
5. **E** The phrase “warning both sides against encroachments on American interests” indicates that Wilson was attempting to prevent each side from taking an action that would force the U.S. to get involved in the war. (E), “neutrality,” gets this point across. (A), “involvement,” suggests the opposite of the correct answer. (B), “belligerence,” is the quality of being warlike; (C), “versatility,” means being able to handle a variety of different situations; (D), “munificence,” means kindness.

### Manifest Destiny

6. **C** The author uses the phrase Manifest Destiny in the second sentence. Immediately following this, she goes on to say that Americans “believed that it was their mission to claim all the land from the Atlantic to the Pacific.” This is the implied definition of Manifest Destiny. You need a choice that talks about the expansion of America from east to west, and (C) fits the bill. Watch out for (A)—Americans may have desired to settle the West, but they saw Manifest Destiny as a mission, not just a desire. In pursuing their Manifest Destiny, nineteenth century Americans operated on a prejudice, but this prejudice isn’t a definition of Manifest Destiny, (D).
7. **A** The context here is: “Fueled by fears of English alliances with Mexico, the aftermath of two economic depressions, and a desire to expand the slave trade, Americans, “egged on” by the politicians of the time, pushed westward . . .” A good prediction is “strongly encouraged,” which matches (A).

8. **E** The author of Passage 1 approves of Manifest Destiny and says that, despite the prejudices of nineteenth century Americans, the goal was just. The author of Passage 2 says that the pursuit of Manifest Destiny had tragic consequences—the loss of Native American culture and the ruin of the wilderness. He would most likely respond to Author 1 by reiterating his alternative point of view as stated in (E). In any case, he would not have a positive response, like (B) and (C). (A) is too extreme—there’s no indication that the author of Passage 1 is naïve.
9. **B** When answering questions about what both authors would agree with, be careful of trap answers that express the opinion of only one of the authors. (A) only fits with Passage 1, while (C) and (D) are mentioned only in Passage 2. (E) talks about the inevitability of Manifest Destiny, which is not mentioned in either passage. (B), however, fits with both passages—it’s mentioned in Passage 1 (line 5), and Passage 2 (line 21).

### Blue-Star Woman

10. **E** The author compares Blue-Star Woman to the ground squirrel since both live where they do “through the easy tolerance of the landowner.” This means that Blue-Star Woman does not own the land she lives on; she occupies a stranger’s land, (E). All of the other choices are misreadings that do not take into account the reference to the tolerance of the landowner.
11. **C** The “easy tolerance” of the landowner is the fact that he permits Blue-Star Woman (and the squirrel) to live on his land. This makes (C) the correct choice. Beware of common synonyms like (D) that are incorrect in the context of the passage.
12. **A** According to the passage, the “unwritten law of heart” prompts Blue-Star Woman to say “a piece of earth is my birthright”—in other words, she automatically deserves land because of who she is. (A) is the correct answer. The white man’s law, on the other hand, demands proof of tribal membership before someone gets land. Both laws have practical consequences, so (B) is out. (C) is incorrect because the “unwritten law of heart” apparently considers every human being to be the same, at least in terms of deserving “a piece of earth.” (D) applies to the white man’s law, not the “unwritten law of heart.” (E) is incorrect because as far as you know, both laws can be explained in straightforward language.
13. **C** In the third paragraph, you find out that the government official keeps asking Blue-Star Women who her parents were in an attempt to establish whether or not she belongs to the Sioux tribe. Blue-Star Woman, however, believes that speaking the names of the dead is a sacrilege, especially in disputes over worldly possessions. These two elements—the official’s demand and the woman’s beliefs—create a feeling of tension, (C). There is no reason that tension would arise as a result of Blue-Star Woman’s desire for land and the declaration of her name, (A); one leads naturally to the other. (B) is incorrect because Blue-Star Woman never speculates about her parents. (D) is incorrect because Blue-Star Woman can’t really be described as having a dominant presence, whereas (E) is incorrect because there is nothing to suggest that Blue-Star Woman is willing to disregard her own beliefs.

14. **C** Look at the sentence in the context of the fourth paragraph. The fact that Blue-Star Woman’s individual name seems to mean nothing anymore implies that the Native American customs and the traditions surrounding the individual name also mean nothing—a sad fact that Blue-Star Woman now understands. (C) is correct. Nothing in the passage suggests that Blue-Star Woman has decided to change her name, (A), that she has lost prestige, (B), that she wishes she had children, (D), or that no one in the tribe remembers her, (E).

### Stargazer’s Symposium

15. **A** Go back to the cited text to make a prediction based on the relevant information. The scientists are brought together to exchange ideas, which matches (A). (B) doesn’t work; problems are indeed discovered by the author, but this is not the purpose of the conference. (C) accounts for only one of the individual topics being explored. (D) is not the purpose of the conference, or even the intended subject for the panel. (E) refers to the work of a researcher, not the purpose of the conference.
16. **D** What point is the author trying to make in this passage? How does the example of the conference help the author make that point? The author describes the incident on the discussion panel in order to open the passage’s broader theme, the problems in the scientific and academic communities, which matches (D).
17. **D** The author complains about the nature of the discussion after Dr. Patel’s comment, how participants “ranted” for “the next hour and a half.” Predict that the author blames Patel’s comment for the ensuing digression, as in (D). The physicists clearly disagreed with the comment, but it is never said that they took personal offense, as (A) indicates. (B) is the opposite of what you’re looking for; the panelists were eager to discuss the comment. The author left the room not because of the comment, as suggested in (C), but because of the behavior that followed it. Eliminate (E) because the passage never mentions that Dr. Patel intentionally caused the uproar.
18. **C** The author is taken aback by the scientists’ behavior. Why does she compare the panel participants to misbehaving children? Your prediction should be consistent with the author’s tone throughout, as in (C). (A) is too extreme; the author disapproves of the scientists’ behavior, but does not express strong dislike for her peers, nor does “belittle” match the author’s tone or intentions. Eliminate (B) because the scientists were not literally throwing a “synchronized temper tantrum.” The author does not compare the scientists to a kindergarten class simply to highlight a disagreement, as indicated in (D). (E) is the opposite of what you’re looking for; the author actually argues that the stargazers have lost the impulses of their childhood.
19. **E** The length of the argument in this particular instance represents general tendencies of the star-gazing community. Predict that this particular detail points to deeper problems, as in (E). Eliminate (A) because the typical length of panel discussions is never mentioned in the passage. The passage never states, as in (B) that the scientists enjoy arguments, only that they participate in them. (C) is too extreme; the author was also dissatisfied with the nature of the discussion, not merely its length. (D) doesn’t work because the scheduled length of the panel is never mentioned.

20. **E** The author states that her peers' bickering "was not new or surprising at all." What does this indicate about the stargazing community in general? (E) is correct; the author is informing the reader that such arguments are relatively common. The author is not suggesting a course of action in these lines, as (A) would indicate. Eliminate (B) because the author is attempting to explain something, not elicit sympathy. (C) is incorrect because the quoted lines are not intended to explain the behavior. While the author accepts some responsibility, as indicated in (D), that's not applicable to this question.
21. **B** The scientists argue about computer modeling. How does that relate to the author's primary theme? Predict that the author describes the conflict as representative of typical problems, as in (B). The author never states her opinion on simulations, as indicated in (A). Eliminate (C) because computer modeling was not the topic of the panel. (D) is the opposite of what you're looking for; there was an argument about computer modeling, not agreement. (E) is true, but is not the reason this anecdote was included.
22. **C** The author contrasts the optimism of her youth with the problems she sees in the present. Which choice pinpoints this contrast? (C) is correct, contrasting youthful optimism with petty bickering. Eliminate (A) because the paragraph describes childhood feelings, not experiences. The author's overall career is never discussed, as (B) indicates. The author likewise never discourages young people from studying astronomy, as in (D). (E) is never stated or alluded to by the author.
23. **C** The reference to "sons and daughters" follows the author's cited hope that the astronomers and astrophysicists that will ultimately replace her generation will not go similarly astray. Predict that the cited text refers to this new generation, as in (C). (A) is a literal interpretation of the author's statement that doesn't work in context. Though the author compares her colleagues to quarrelling children, as in (B), this particular phrase doesn't reference this mention. Likewise, this reference doesn't relate to the earlier mention of the kindergarten class, as in (D), which served as a comparison to the behavior of the author's colleagues. While the author hopes her "sons and daughters" will follow more closely these dreams and ambitions, (E), the phrase refers to the future scientists themselves.
24. **A** The author cites "stubborn arguments" and "self-promotion" as higher priorities than risk-taking and commitment to idealistic aspirations. Predict that this is, in the author's view, the major problem in the stargazing community. (A) accounts nicely for the misplaced priorities that the author identifies. (B) is a symptom, not the root problem. Eliminate (C) because the author never states that the argument is long-standing. (D) doesn't work because the author never offers her own opinion about computer modeling. The number of new theories in the field of astronomy, (E), is never discussed.

## Section 4 (Math)

1. **D** To divide by a fraction, multiply by its reciprocal.

$$\frac{1}{\left(\frac{4}{2x}\right)} = 1 \times \frac{2x}{4} = \frac{x}{2}$$

2. **E** Remember the order of operations. PEMDAS can help you get through long problems and prevent careless mistakes.

$$x = |-5|^2 + |-4 - 3| \times 7$$

$$x = 5^2 + |-7| \times 7$$

$$x = 25 + 7 \times 7$$

$$x = 25 + 49$$

$$x = 74$$

3. **E** Note that the question is not asking for the value of  $n$ .  $4n - 15 = 17$ , so  $4n = 32$  and  $n = 8$ . Then  $3n + 9 = 3(8) + 9 = 24 + 9 = 33$ .

4. **C** This question can be rewritten as  $\frac{27}{15} = \frac{9}{x}$ . Cross multiply to find  $27x = 135$ , then divide both sides by 27 to find  $x = 5$ . This problem is also a good candidate for Backsolving.

5. **C** The first step is to translate the question into an equation. Call the original number  $x$ . Then write the question as  $x - 4 = 9x$ . Subtract  $x$  from both sides of the equation to find  $-4 = 8x$ . Divide both sides by 8 to find  $x = -\frac{1}{2}$ .

6. **B** Learn the vocabulary of the PSAT math section before Test Day, so that you are not confused and have an edge on complicated problems. Since set  $J$  is the set of all negative odd integers and set  $K$  is the set of all negative even integers, the union of these two sets is a set that combines all of the values of both sets into one set. So, the union of these sets would be all negative odd integers and all negative even integers, which simplifies to all negative integers.

7. **E** Remember that  $a^{-b} = \frac{1}{a^b}$ .

$$m^{-2} = \frac{1}{m^2} = \frac{1}{8^2} = \frac{1}{64}$$

8. **C** (A) and (D) are both less than  $\frac{1}{2}$  yard, so they are too short to tie up the bag and can be eliminated. To find out which of the remaining lengths is shortest, and therefore will have the least amount of remaining rope, give them all a common denominator.  $\frac{2}{3}\left(\frac{10}{10}\right) = \frac{20}{30}$ ,  $\frac{4}{5}\left(\frac{6}{6}\right) = \frac{24}{30}$ , and  $\frac{5}{6}\left(\frac{5}{5}\right) = \frac{25}{30}$ . The shortest option longer than  $\frac{1}{2}$  yard is  $\frac{2}{3}$  yard.

9. **2** Note that the question asks for the value of  $x$ . Substitute  $2y$  for  $x$  in the first equation.  $2y + 4y = 6$ , so  $6y = 6$  and  $y = 1$ .  $x = 2y = 2(1) = 2$ .

10.  $\frac{3}{4}$  or .75

If Alice completes her homework in 8 hours, she completes  $\frac{1}{8}$  of it every hour. After working for 6 hours, she has completed  $6 \times \frac{1}{8} = \frac{6}{8} = \frac{3}{4}$  of it.

11. **1296**

The product of 8 and 9 is 72, so half their product is 36. Since 36 is the square root of the number you're looking for, the number must be  $36^2 = 36 \times 36 = 1,296$ .

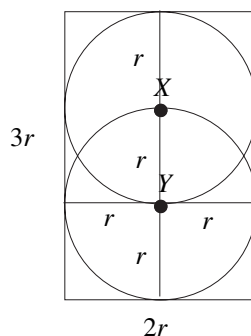
12.  $\frac{5}{24}$  or .208

Average =  $\frac{\text{sum of terms}}{\text{number of terms}}$ , so in this case the average is

$$\frac{\frac{1}{4} + \frac{1}{6}}{2} = \frac{\frac{6}{24} + \frac{4}{24}}{2} = \frac{\left(\frac{10}{24}\right)}{2} = \frac{10}{24} \times \frac{1}{2} = \frac{5}{24}$$

You could also grid in the decimal equivalent of  $\frac{5}{24}$ , which is .208.

13. **9** Looking at the addition problem, you see that  $A$  plus  $A$  in the units column yields an 8 in the units column of the sum. Therefore  $A$  could equal either 4 (since  $4 + 4 = 8$ ) or 9 (since  $9 + 9 = 18$ ). If  $A$  were 4, then you wouldn't have to carry a 1 to the tens column, and 4 plus  $B$  would equal  $1B$ . There is no value of  $B$  for which this could be true, so try  $A = 9$ . If  $A = 9$ , then  $A$  plus  $A$  in the units column would sum to 18, leaving an 8 in the units column of the sum, and requiring you to carry a 1 to the tens column. Therefore you'd have  $1 + 9 + B = 1B$  in the sum. This is true for any value of  $B$  ( $1 + 9 + 3 = 13$ ,  $1 + 9 + 7 = 17$ , etc.) So the value of  $A$  must be 9.
14. **36**  $\angle CAD = \angle CAE - \angle DAE$ . You're told that  $m\angle CAE = 73$ , so if you can find  $\angle DAE$  you can solve for  $\angle CAD$ .  $\overline{AB}$  is perpendicular to  $\overline{AE}$ , so  $m\angle BAE = 90$ . Also,  $\angle BAE = \angle BAD + \angle DAE$ , and since  $m\angle BAD = 53$ ,  $90 = 53 + m\angle DAE$ , and  $37 = m\angle DAE$ . Now that you have the measure of  $\angle DAE$  you can solve for  $m\angle CAD$ :  $m\angle CAD = 73 - 37 = 36$ .
15. **45** You're asked to find the perimeter of the rectangle. Perimeter =  $2(l + w)$ , where  $l$  and  $w$  represent length and width respectively. So you need to find these measurements to solve. You're not given any information about the rectangle, but you are told that the two circles inscribed within it have circumference  $9\pi$ . Therefore, there must be some way to use the information about the circles to determine the length and width of the rectangle. If you draw in some radii, as shown in the figure that follows, you'll notice that the length of the rectangle is equal to 3 radii and that the width is equal to 2 radii.



Circumference is equal to  $2\pi r$ , where  $r$  is the radius of the circle. So  $2\pi r = 9\pi$ ,  $2r = 9$ , and  $r = 4.5$ . The length of the rectangle is  $3(4.5) = 13.5$ , and the width is  $2(4.5) = 9$ . Plugging into the formula, you find that the perimeter of the rectangle is  $2(13.5 + 9) = 2(22.5) = 45$ .

16. **5** Since 9 cookies were left uneaten, the number of cookies that were eaten is  $64 - 9 = 55$ . You're told that each guest ate  $n$  cookies, so  $n$  times the number of guests at the party must equal 55. Since the number of guests must be a whole number, the number of cookies must also be a whole number, and both numbers must be factors of 55. The factors of 55 are 1, 5, 11 and 55. You're told that the number of guests at the party is greater than 9, so it must be either 11 or 55, which would make  $n$  either 5 or 1 respectively. Since  $n$  must be greater than 1, it must therefore be 5.
17. **48** You're given a lot of information here, and if you just take a little time to sift through it, you'll be able to solve. You know how many boxes of candy were sold, how much money was raised, and that some boxes cost \$2 and the rest cost \$5. You're asked to solve for the number of boxes sold at \$5, so let that number equal  $x$ . Since a total of 150 boxes were sold,  $150 - x$  is the number sold at \$2. If you multiply the number of boxes sold at each price by their respective prices and then add the two dollar amounts, you'll get the total amount of money raised. You know that this total is \$444, so you can set up an equation to solve for  $x$ :

$$\begin{aligned} 5x + 2(150 - x) &= 444 \\ 5x + 300 - 2x &= 444 \\ 3x + 300 &= 444 \\ 3x &= 144 \\ x &= 48 \end{aligned}$$

So the number of boxes sold at \$5 is 48.

If you weren't sure how to proceed on this question, your calculator would be a great ally. You could use it to try out various possibilities for the number of boxes sold at each price. You know that 150 boxes were sold, so you might try 75 at each price:  $(75 \times \$5) + (75 \times \$2) = \$375 + \$150 = \$525$ . Only \$444 was raised, so there must have been fewer boxes sold at \$5. Try 50 and 100:  $(50 \times \$5) + (100 \times \$2) = \$250 + \$200 = \$450$ . This is still too big, but just by a little, so you know you're close. A few more tries on your calculator should help you find that 48 boxes were sold at \$5.

18.  $\frac{49}{4}$  or 12.2 or 12.3

The perimeter of a rectangle is  $2(l + w)$ , where  $l$  is the length and  $w$  is the width. Since the perimeter of this rectangle is 14,  $2(l + w) = 14$ . Dividing both sides by 2,  $l + w = 7$ . Think about different rectangles which have a length and a width which add up to 7. If  $l = 6$  and  $w = 1$ , then the area of the rectangle is  $6 \times 1$ , or 6. If  $l = 5$  and  $w = 2$ , the area is  $5 \times 2$ , or 10. If  $l = 4$  and  $w = 3$ , the area is  $4 \times 3$ , or 12. Notice that the closer the sides of the rectangle come to being equal, the greater the area becomes. The area will be a maximum when the rectangle is a square. In this case  $l = w = 3.5$ . The area of such a square is  $3.5 \times 3.5 = 12.25$ .

## Section 5 (Writing)

1. **A** Don't be afraid to pick (A) on Improving Sentences questions. Here, the sentence contains no error.
2. **E** This sentence is a fragment with no predicate verb. Both (C) and (E) correct the fragment error, but the singular verb "believes" in (C) does not agree with the plural subject "commuters."
3. **C** As written, this sentence indicates that "the president" was "Developed by a scientific team at his university." (C) rewords the sentence to clarify that the process, not the president, was the actual development.
4. **B** This sentence is a run-on. (B) corrects this by making the second clause subordinate with an appropriate contrast transition word.
5. **A** The original sentence is best.
6. **E** This sentence is unnecessarily wordy, and "when you are managing" does not parallel the introductory phase, as is necessary in a comparison. (E) corrects both errors.
7. **B** The passive voice here is unnecessary. (B) is concise and makes the sentence active.
8. **E** "Best" should only be used when comparing three or more things. "Better" is correct when comparing two things.
9. **A** The original sentence is best. The past perfect tense is used correctly.
10. **B** This sentence illogically compares the number of services in one country with the programs in another. Both (B) and (D) compare the number of services in the two countries, but the plural verb in (D) does not agree with its singular subject "the number."
11. **C** This sentence contains a comma splice: two independent clauses joined only by a comma. Also, there is no clear antecedent for the pronoun "them." (C) replaces the comma with a semicolon, and uses "he" to make it clear that the pronoun refers to the "politician."
12. **B** As written, this sentence is unnecessarily wordy. (B) makes the sentence more concise without changing its meaning or introducing any grammatical errors.
13. **B** Since the passive voice here can easily be made active, the correct answer choice does so.
14. **D** The singular subject "consumption" requires a singular verb form. (C), (D), and (E) all change "have...decreased" to "has...decreased," but (C) and (E) use incorrect grammatical structure.
15. **D** This sentence is unnecessarily wordy, and the plural pronoun "them" does not agree with its singular antecedent "bee." This choice is more concise and uses the appropriate pronoun, "it."

16. **A** The original sentence is best here.
17. **D** This sentence does not make it clear whether Lindsay and Mike are joining the guests in Aruba, or if Aruba is where their wedding was held. (D) clarifies the sentence.
18. **C** “And,” not “or,” is the idiomatically correct preposition with “between.” Both (C) and (D) make the change, but (D) changes the meaning of the sentence.
19. **B** “Then” is redundant with “in the future,” and the pronoun “they” has no clear antecedent. (B) corrects both errors without introducing any new ones.
20. **E** Since the *-ing* verb form can’t function as a predicate verb, this is a sentence fragment. (E) adds the necessary predicate verb.
21. **C** Here, the adjective “dramatic” is used to modify the verb “improve”; (C) should be *dramatically*.
22. **B** Always check to see if verb tenses accurately reflect the sequence of events discussed. Here, since the agreement among the parties took place during the election, the past tense *agreed* would be correct.
23. **A** The relative pronoun that refers to people is “who,” not “which.”
24. **E** There is no error in this sentence.
25. **A** Make sure you identify whether the subject is singular or plural. Here, “every one” is actually singular; even though the sentence describes a group, the subject is every *one* member of the group. To agree with this subject, “were closed” should be changed to *was closed*.
26. **D** Double negatives are only correct when context makes it clear that the negatives are intended to cancel each other out. Since the negative is clearly indicated here, (D) is correct.
27. **A** If the paper were “imaginary,” it wouldn’t exist. *Imaginative* would be appropriate here.
28. **C** The subject here is the plural “memoirs,” so “promises” should be *promise*.
29. **A** The correct idiom here would be *at issue*, not “on” issue.
30. **A** The verb to *raise* requires an object: one thing *raises* another. When something is going up without a specified cause, as “living costs” are here, *rising* would be correct.
31. **E** There is no error in this sentence.
32. **C** The correct idiom is *capable of*, not “capable for.”
33. **B** There is no reason for the verb tense switch here; (B) should simply read *competes*.

34. **E** This sentence contains no error.
35. **C** In sentence 5, the switch to the passive voice is incorrect. (C) provides the best revision. (B) introduces an inconsistent verb tense; (D) and (E) do not address the error.
36. **D** From the context, it is clear that the author means that the factories belong to the retail chain, but the use of the word “their” incorrectly conveys the idea that they belong to the consumers. Substituting “the company’s” for “their” fixes this problem.
37. **B** This sentence is unnecessarily wordy. (B) is much more concise without losing any of the sentence’s meaning. (C) and (E) are still unnecessarily wordy. (D) introduces an inconsistent verb tense.
38. **A** In sentences 8 and 9, the retail chain representative presents arguments against the students’ plan to boycott. Since sentence 9 is essentially a continuation of the idea expressed in sentence 8 (i.e., that the representative disagrees with the students), the best replacement is “Moreover.” All of the other choices provide a sense of contrast rather than continuation.
39. **D** As written, the sentence incorrectly connects two independent clauses with a comma and uses complex verb tenses and the passive voice unnecessarily. (D) fixes these errors. (B) uses grammatically incorrect structure. (C) and (E) change the meaning of the sentence.



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